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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,675	12/08/2003	Takuya Murata	OMRNP070	4286

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BEYER WEAVER & THOMAS LLP
P.O. BOX 70250
OAKLAND, CA 94612-0250

EXAMINER

FUREMAN, JARED

ART UNIT PAPER NUMBER

2876

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/731,675	MURATA ET AL.	
	Examiner	Art Unit	
	Jared J. Fureman	2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 5-9, 11, 12 and 18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 10, 13-16, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 2, 4 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. <u>012/2006</u> |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Receipt is acknowledged of the response to restriction requirement and foreign priority documents, filed on 11/3/2005, which have been entered in the file.

Election/Restrictions

1. Applicant's election without traverse of Group I (Figure 10) in the reply filed on 11/5/2005 is acknowledged. Applicants identified claims 1, 2, 4, 7, 10 and 13-20 as readable on Group I. However, the examiner noted that claim 7 recites "interval-changing means" (see claim 7, line 14) and claim 18 recites "changing interval" (see claim 18, line 9), which is shown in figure 14, Group II. Applicant's agreed to remove claims 7 and 18 from Group I (see the interview summary dated 1/18/2006).

Furthermore, the examiner noted that, other than claim dependency, claim 3 includes the same limitations as claim 4. Thus, the examiner has included claim 3 in Group I. Therefore, Group I includes claims 1-4, 10, 13-17, 19 and 20.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 16 is rejected under 35 U.S.C. 102(b) as being anticipated by Hanson (US 5,468,950).

Hanson teaches a method for reading out an optical code, said method comprising the steps of: obtaining a plurality of images continuously (see column 2, lines 20-27) with a camera (photosensor array 22 such as a CCD array, see figure 1 and column 3, line 52) under specified image-taking conditions (illumination conditions, for example) in response to a specified command (the operator activating the illumination means, for example, see column 4, lines 34-36); sequentially selecting and attempting to decode one of said images in a specified order (the order in which the images were captured); and outputting results of decoding, when one of the images is successfully decoded, as a successful decoding without further attempting to decode the remaining ones of the images (see column 2, lines 24-27) (also see figure 1; column 2, lines 1-27; and column 3, line 39 - column 4, line 51).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1, 3, 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feng et al (US 5,717,195) in view of Hanson.

Feng et al teaches a device (10, figure 1) for reading out an optical code (dataform 59, figure 1), said device comprising: a camera (photosensor array 76, of camera assembly 72, figure 4); an image memory (within imaging circuitry 34, see figure 1 and column 4, lines 61-64) for storing images taken by said camera; an image processor (microprocessor 40, of imaging circuitry 34, see figure 1 and column 4, lines 56-61) for decoding an optical code contained in an image taken by said camera; image-taking means (camera assembly, figure 4) for obtaining a plurality of images continuously with said camera under specified image-taking conditions (exposure parameters/exposure period, for example, see figure 4) in response to a specified image-taking command (activation of the apparatus 10, for example) and causing the obtained images to be stored on said image memory; and image-decoding means (signal processing circuitry 110, figure 4) for sequentially selecting one of the images

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stored on said image memory in a specified order (the order in which the images were captured), causing said image processor to make an attempt to decode an optical code contained in the selected image, and outputting results of decoding, if the attempt to decode any of the stored images is successful (see column 4, lines 54-65); wherein said camera has a variable shutter speed (the exposure parameter control circuitry 104 and exposure period control circuitry 100 represent a variable shutter speed, since they control the exposure time of the photosensor array 76), includes an illuminator (illumination assembly 74) adapted to illuminate a target object, and wherein said specified image-taking conditions are defined by the shutter speed of said camera (also see figures 1, 4; column 4, lines 32-37, 54-65; column 5, lines 52-63; column 6, lines 12-33; column 7, lines 12-29, 55-60; column 8, lines 1-22).

Feng et al fails to specifically teach without making the attempt on the remaining images; the illuminator is adapted to vary lighting conditions of said target object;

Hanson teaches a device and method for reading out an optical code, including: the device (see figure 1) outputting results of decoding, if the attempt to decode any of the images is successful, without making the attempt on the remaining images (Hanson teaches that decode attempts are made until an image is decoded, see column 2, lines 18-27, thus any remaining images are not attempted to be decoded); an illuminator (illumination means 28, figure 1) adapted to illuminate a target object and is adapted to vary lighting conditions (the wavelengths of light, see column 3, line 65 - column 4, line 51) of said target object;

In view of Hanson's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the device and method as taught by Feng et al, without making the attempt on the remaining images; the illuminator is adapted to vary lighting conditions of said target object; in order to allow quick reading of an optical code over a larger range (see column 1, lines 25-33, for example).

8. Claims 13-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feng et al in view of Hanson and Lee (US 6,598,797).

The teachings of Feng et al as modified by Hanson have been discussed above. Feng et al also teaches a display (a display on the register shown in figure 3, for example) to display the data associated with the decoded images.

Feng et al as modified by Hanson fails to specifically teach making attempts to decode all of the plurality of images stored on said image memory and causing successes and failures of said attempts to be recorded; and optimizing means for comparing quality of images that were successfully decoded and thereby outputting the image-taking conditions corresponding to the image determined to have best quality as optimum conditions.

Lee teaches a device (imager 10, see figure 4) and method for reading out an optical code, including image-decoding means (CPU 200, figure 15) for making attempts to decode all of a plurality of images stored on an image memory (flash memory 202 and/or DRAM 204, see figure 15) and causing successes and failures (image quality, for example) of said attempts to be recorded; and optimizing means for

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comparing quality of images that were successfully decoded and thereby outputting the image-taking conditions (intensity, exposure and gain settings) corresponding to the image determined to have best quality as optimum conditions (see figures 1, 15; column 1, lines 23-31; column 2, line 63 - column 3, line 10; column 3, line 19-30; column 5, lines 15-44; column 7, line 66 - column 8, line 25; column 9, lines 47-54; and column 10, line 48 - column 11, line 27).

In view of Lee's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the device and method as taught by Feng et al as modified by Hanson, making attempts to decode all of the plurality of images stored on said image memory and causing successes and failures of said attempts to be recorded; and optimizing means for comparing quality of images that were successfully decoded and thereby outputting the image-taking conditions corresponding to the image determined to have best quality as optimum conditions; in order to quickly and easily adjust the illumination and focus (see column 1, lines 23-31, of Lee).

Allowable Subject Matter

9. Claims 2, 4 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record, taken alone or in combination, fails to teach or fairly

suggest (regarding claim 2) order-changing means for changing said specified order according to history of the order in which successfully decoded images were taken in the past; (regarding claim 17) the step of changing said specified order according to history of the order in which successfully decoded images were taken in the past; in combination with the other claimed limitations as set forth in the claims.

Feng et al, Hanson, and Lee all teach attempting to decode the images in the order in which the images were captured. The prior art does not teach or suggest changing the decoding order of a plurality of continuously obtained images.


Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Saporetti et al (US 6,616,039), Dowling et al (US 6,860,428), Stoner (US 6,318,637), Stoner (US 6,053,408), Mizuochi (US 6,010,070), Ju et al (US 5,811,774), Obata et al (US 5,597,006) and Wang et al (US 5,572,006) all teach devices and methods for reading optical codes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jared J. Fureman whose telephone number is (571) 272-2391. The examiner can normally be reached on 7:00 am - 4:30 PM M-T, and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jared J. Fureman
Primary Examiner
Art Unit 2876

January 21, 2006